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Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (BT) (2012 to 2017) (Sem.-3)

**MICROBIOLOGY**

Subject Code : BTBT-303

M.Code : 55073

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

**SECTION-A****Write briefly :**

1. How is cell wall of gram negative bacteria different from that of gram positive bacteria?
2. Why spores are a threat to food industry?
3. What are the disadvantages of radiation sterilization?
4. What is lyophilization?
5. What is the difference between active and passive transport?
6. What is binary fission and budding?
7. What is the basic difference between solid state and submerged fermentation?
8. How are anaerobic bacteria cultured in laboratory?
9. List various strain improvement techniques?
10. Write difference between thermophiles and psychrophiles.

### SECTION-B

11. Describe the structure and function of capsule and flagella.
12. What are the various chemical requirements required for the growth of Pro microorganisms? Explain how these help in the growth of the microorganisms?
13. Write about the type and role of feed stocks used for industrial fermentations.
14. What is translation? Describe the steps of the translation process.
15. Write briefly about maintenance and preservation of industrially important microorganisms.

### SECTION-C

16. Compare the morphological characteristics of bacteria and fungi with suitable examples and diagrams.
17. What are the various techniques for the measurement of the growth of the microorganisms? Explain about the filtration, the most probable number method and direct microscopic count.
18. List the various techniques of sterilization? Describe the moist heat sterilization, dry heat sterilization and filtration sterilization along with their applications.

**NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.**